

REMARKS

Claims 1, 10, 11, and 20 are finally rejected under 35 U.S.C. § 103 as being unpatentable over Watters in combination with Soliman. To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974), MPEP § 2143.03. Watters, alone or in combination with Soliman, does not teach all limitations of claim 1.

Claim 1 recites “a method of performing bit-edge synchronization ... in the presence of periodic interference, comprising: ... performing bit-edge synchronization on one said satellite signal the bit edges of which are not obscured by said periodic interference; and calculating the bit-edge synchronization for at least one remaining satellite signal the bit edges of which are obscured by said periodic interference based on said predetermined TDOA values.” Claim 11 includes similar limitations. Watters is completely silent as to any periodic interference at all, and in particular does not disclose using predetermined TDOA values to calculate bit-edge synchronization for a satellite signal, the bit edges of which are obscured by periodic interference.

Watters discloses calculating theoretical TDOA values for base station pairs, and measuring the actual TDOA values at fixed-location calibration terminals located throughout the wireless network. Based on the difference between calculated and measured TDOA values, the calibration terminals calculate TDOA correction factors that assist in TDOA-based location determination for mobile terminals. Col. 1, lines 61-66; col. 4, lines 43-52. Watters identifies several sources of errors giving rise to the difference between calculated and measured TDOA values. First, the error may be considered the superposition of two error components: a systematic error and a variable error. Col. 5, lines 47-50. The systematic error results from differences in the times of transmission and delays in propagation due to non line-of-sight paths. Col. 5, lines 50-52. The variable errors arise from changes in equipment at the base stations, changes in environmental factors that alter the propagation time of radio signals, and

measurement error. Col. 5, lines 52-57. No interference at all, and certainly no periodic interference, is disclosed or suggested in Watters as obscuring bit-edges or otherwise hampering or preventing bit-edge synchronization.

Soliman discloses using the time of arrival of a reference CDMA pilot signal at a mobile station as a time reference. The TDOA of GPS signals and other pilot signals are measured relative to the reference time. From these measurements, the location of the mobile station is determined. Soliman does not disclose any interference –periodic or otherwise – as obscuring bit-edges or otherwise hampering or preventing bit-edge synchronization.

Neither Watters nor Soliman, alone or in combination, teach or suggest every limitation of claims 1 or 11. In particular, neither reference discloses, teaches, or suggests performing bit-edge synchronization on one satellite signal whose bit edges are not obscured by periodic interference, and using predetermined TDOA values to calculate the bit-edge synchronization for another satellite signal whose bit edges are obscured by periodic interference. Explicit claim limitations cannot be ignored, and the prior art of record is completely silent as to any periodic interference or achieving bit-edge synchronization differently depending on the presence of periodic interference.

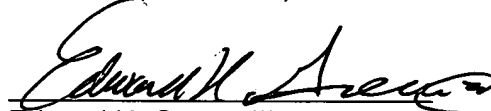
The Examiner asserted that Applicants' previous arguments are more limited than the claims, and that "the claims lack the limitation that the interference is so bad that [a signal subject to some interference] could not be used alone." By the plain language of claim 1, the task of calculating bit-edge synchronization based on predetermined TDOA values is only resorted to when bit edges of the signal are obscured by periodic interference. The verb "to obscure" means to conceal, or to make unclear, indistinct, or blurred. Upon reading claim 1, those of skill in the art will immediately recognize that where periodic interference does not obscure the bit edges, bit-edge synchronization is performed directly, without resort to TDOA-based calculations.

In any event, the Examiner's assertion is inapposite to the patentability of claim 1. No art of record discloses, teaches, or suggests using TDOA-based calculations to achieve bit-edge synchronization on signals whose bit edges are obscured by periodic interference, and performing bit-edge synchronization directly on signals whose bit edges are not obscured by periodic interference, regardless of whether the obscuration is partial or total. All cited art is completely silent as to any interference at all – periodic or otherwise – and to the use of TDOA-based calculations over direct bit-edge synchronization only when bit edges are obscured.

Because the prior art – alone or in combination – fails to teach or suggest every claimed limitation, the Examiner has failed to establish a *prima facie* case of obviousness to support the rejection of claims 1 and 11. Accordingly, these claims, and all claims depending therefrom, are patentably nonobvious over the art of record. Applicant therefore respectfully requests prompt allowance of all pending claims.

Respectfully submitted,

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